



# BEST PRACTICE TO SUSTAINABILITY

[www.genesisproductsinc.com](http://www.genesisproductsinc.com)



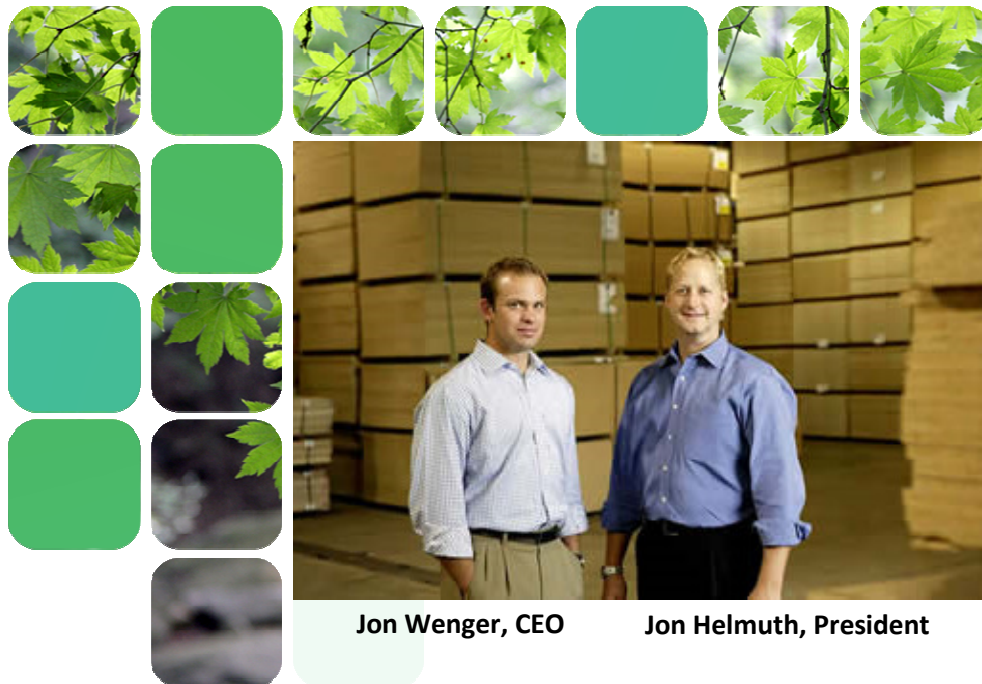
A PRESENTATION BY GENESIS PRODUCTS

All material © Genesis Products, Inc. 2010

# Genesis Products history

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- Founded by the Jons in Aug 02
- 1<sup>st</sup> product was 100% recycled panel – GenPly™
- In 2007 made the Inc. 500 as the 8<sup>th</sup> fastest growing factory in the U.S.



2003- \$5.7 MM

2004 - \$21 MM

2005 - \$34.6 MM

2006 - \$53.7 MM

2007 - \$59.9 MM

2008 - \$55.4 MM

2009 - \$36 MM

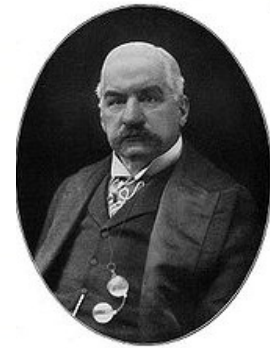
2010 - \$41 MM

2011- \$44 MM (proj.)

"A man generally has two reasons for doing a thing: one that sounds good, and a real one."

— *J.P. Morgan*

*Financier and philanthropist*



# Waste Stream Management

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## Vinyl film scrap: PVC

- Sourced an overseas vendor to regrind and resell PVC
- Material is made into flooring products
- Reclaim 528,000 lbs / year

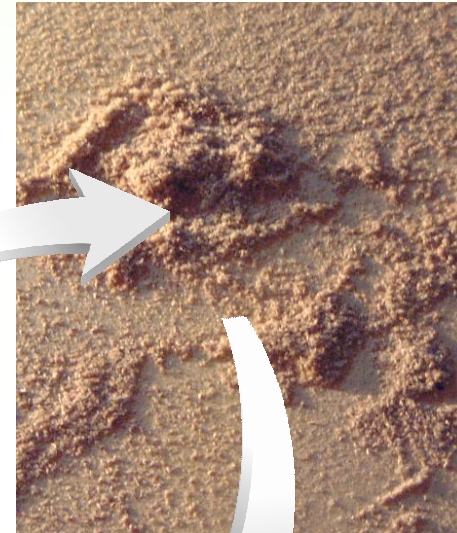




# Waste Stream Management

## Saw dust

- Negotiated with a local vendor
- Dust is reclaimed for animal bedding
- 16,040,000 lbs / year



# Waste Stream Management

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## Metal banding

- Reclaimed into supply stream
- 520,000 lbs / year



# Waste Stream Management

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## Cardboard packaging materials

- Reclaimed into supply stream
- 264,000 lbs / year
- Initiated returnable packaging system with vendors





# Waste Stream Management

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## Wood skids and pallets

- Ground into landscaping mulch
- 960,000 lbs / year



# Waste Stream Management

## Office paper waste

- Reclaimed into supply stream
- 1440 lbs / year



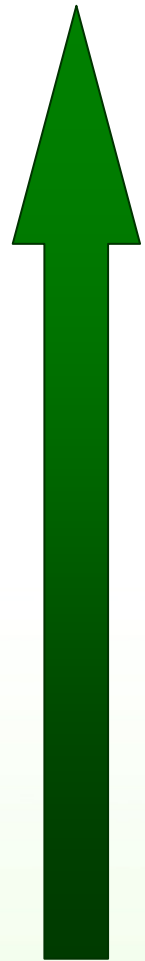
- 1 ream of copy paper (500 sheets) uses 6% of a tree
- 17 reams of copy paper use 1 tree
- A 16-page brochure (5,000 copies) uses almost 5 trees



# Waste Hierarchy Model

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**Most** preferred option



**1**

**PREVENTION – DON'T PRODUCE IT**

**2**

**MINIMIZATION – REDUCE WASTE IN ALL AREAS**

**3**

**RE-USE – USE IT AGAIN (PACKAGING)**

**4**

**RECYCLE – REPROCESS MATERIAL (CANS)**

**5**

**ENERGY RECOVERY – BURN FOR ENERGY**

**6**

**DISPOSAL – THROW IT AWAY**

**Least** preferred option

## Unfortunately, Recycling doesn't solve all issues...

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### **Recycling can force products not designed for 2<sup>nd</sup> use into a downgraded 2<sup>nd</sup> life-cycle**

- Virgin paper (*not well-suited for recycling*) > Recycled content paper > grocery bags > waste
- Plastic bottles (*recycled with dissimilar plastics*) > toys > waste
- Automotive high-tensile steel (*isn't separated*) > downgraded steel > common steel

### **Recycling puts materials in applications where the source material was never designed**

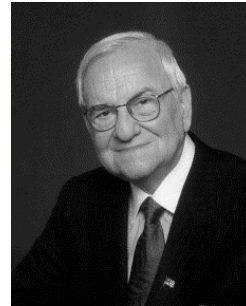
- Plastic bottles > shirts = toxins leach into skin under heat and moisture
- Plastic bottles > carpet = toxins abrade into air and are inhaled



So now what?

"We've got to pause and ask ourselves:  
How much clean air do we need?"

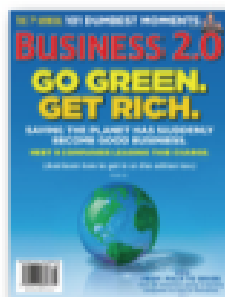
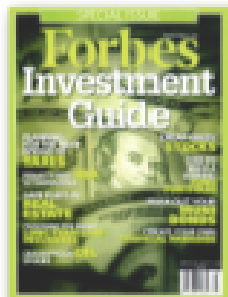
— *Lee Iacocca, CEO  
Chrysler, 1979-1992*



# Business seeing the Possibilities

## Wal-Mart's Goals

- To be supplied **100 % by renewable energy**
- To create **zero waste**
- To sell **products that sustain our resources and environment**





# A Public Awakening...



# Our Story & Why Sustainability?

- “Green” has been around for a number of years and has always been a value that Genesis has felt is a part of our culture
- We had not focused on how to truly integrate “Green” principles into Genesis
- With the beginning of the Sustainability Coalition and our conviction that Sustainability was a core value, we started to explore making Sustainability a more complete part of Genesis
- Basically, we decided that Sustainability is a *must* and anything else is destructive in the long term


# Compelling Business Value

Potential Improvements by Bob Willard, *The Sustainability Advantage*

1. Reduced recruiting costs
2. Reduced attrition costs
3. Increased employee productivity
4. Reduced expenses in manufacturing
5. Reduced expenses at customer sites
6. Increased revenue - market share
7. Lower insurance & borrowing costs

**...yielding a profit increase of +38%**

# Performance against peers

- Dow Jones sustainability Index:  
10 years of data
  - **72%** outperformed industry peers
  - By an average of **25%**...
  - Regions that protect their environment  
outperform those **that do not.**
- 

# What is Sustainability?

Meeting your current needs without compromising future generation's ability to meet theirs

**Enough for all forever...**

## The Emerging Drivers

- Climate change
- Pollution/health
- Globalization backlash
- Energy crunch
- Water shortages
- Erosion of trust



# A Sustainability Model

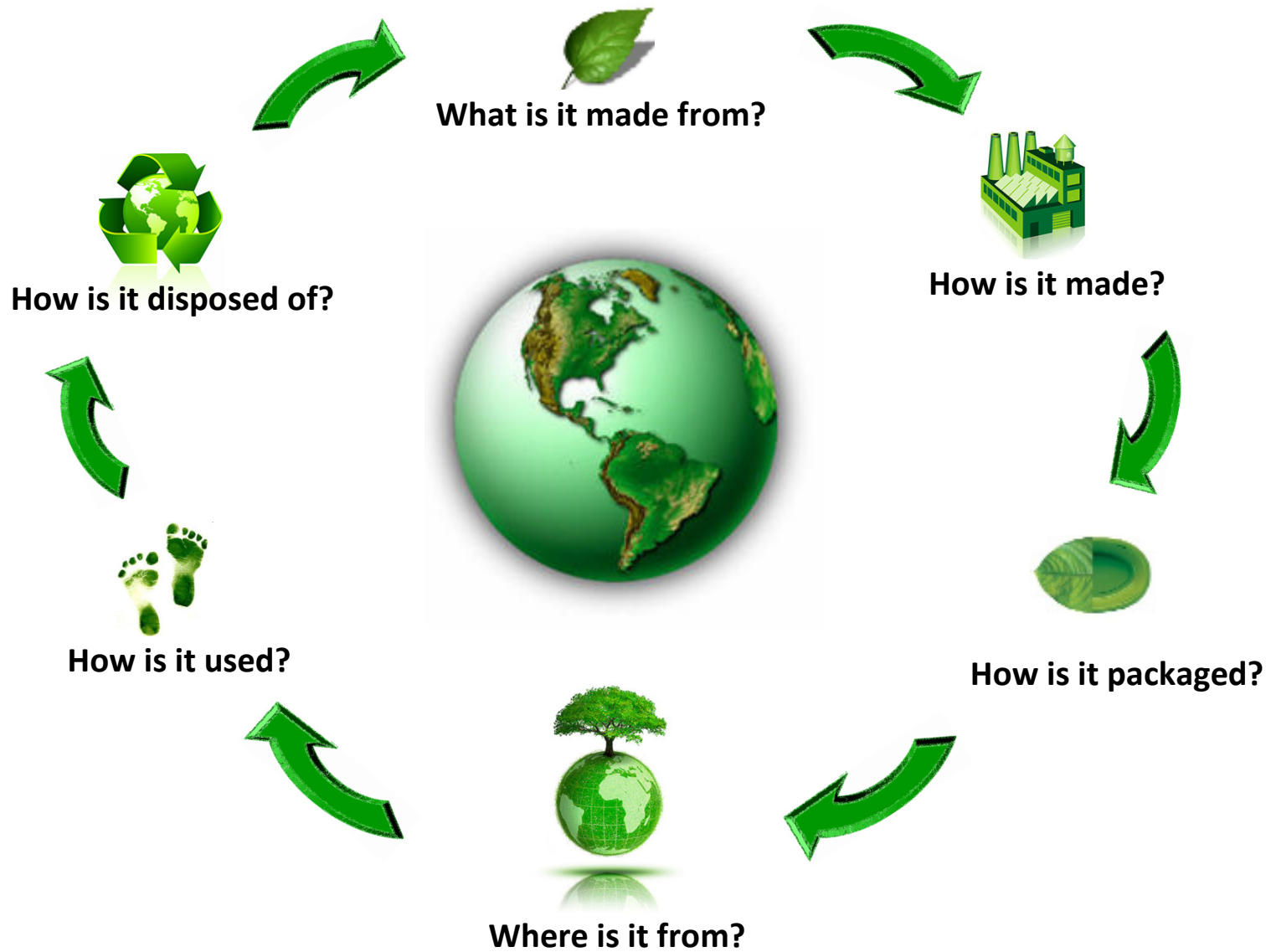


It's really about bringing  
3 elements into harmony

- **Environment**
- **Economy**
- **Society**



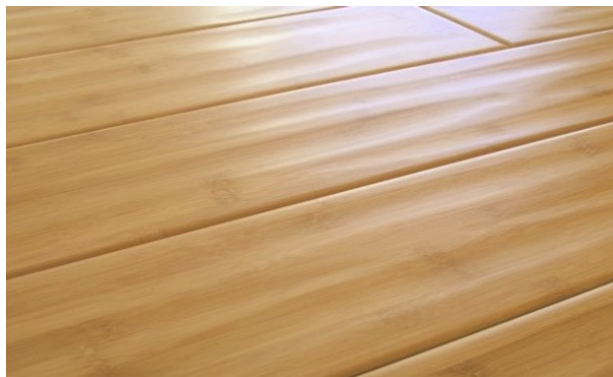
# Life Cycle Assessment



# Green vs. Sustainability

## Green

- Product and detail focused
- Tactical
- Ecological
- Focus on being less “bad”
- Lacks common definition of success



Bamboo Flooring

## Sustainability

- Whole systems focus
- Strategic
- Triple bottom line
- Focus on aligning with:
  - Nature’s cyclical processes
  - Capable of defining success



Oak Flooring

# Many shades of Green

The Green certification space is cluttered



SCIENTIFIC CERTIFICATION SYSTEMS  
SCS-IAQ-01880



US COMPOSTING COUNCIL



carbonconcierge



# What It Is Not..? Greenwashing





# Our Commitment...

- **We are members of The Sustainability Coalition for Elkhart County**
  - 14 businesses building sustainability plans over one year period
  - Promoting a common understanding of sustainability
  - Framework for applying sustainability principles in member organizations
  - Members work collaboratively to develop and give feedback on plans

***Education – Collaboration - Innovation***



# The Sustainability Framework

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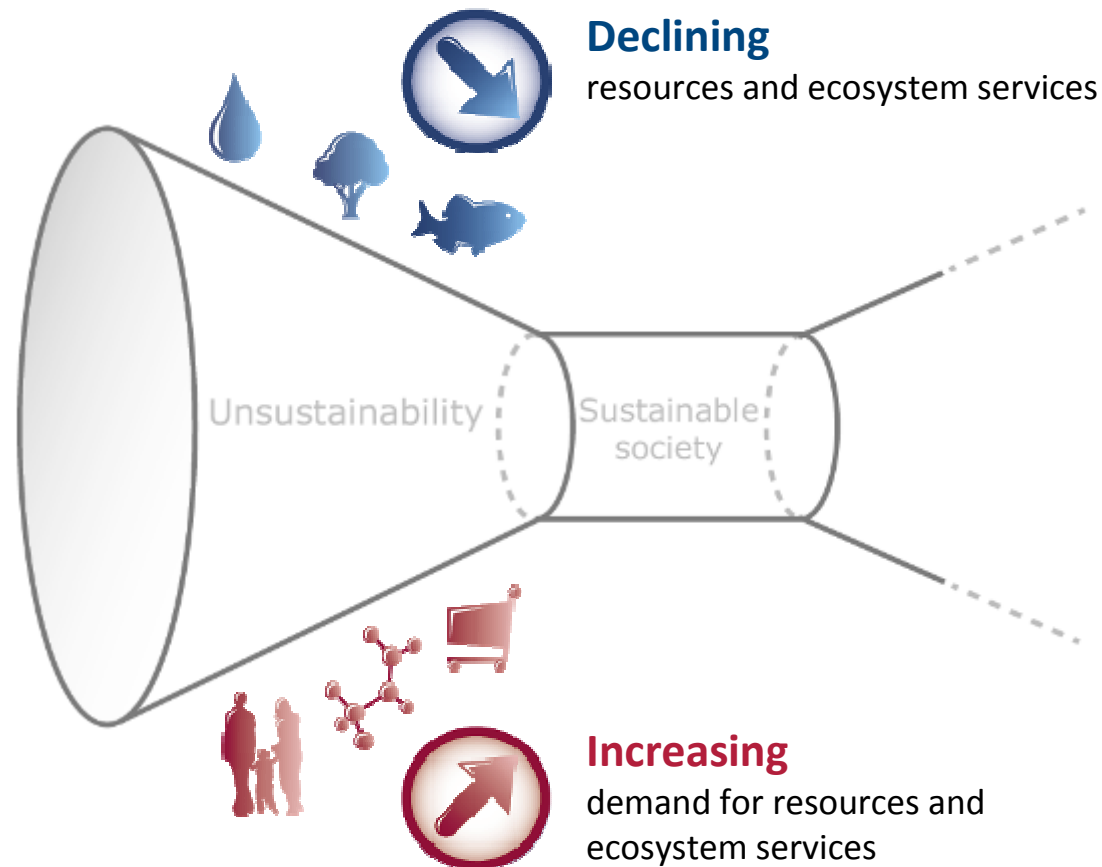
- ✓ Systems Thinking
- ✓ Science based
- ✓ Life Cycle Analysis
- ✓ Strategic Survival
- ✓ Partnership
- ✓ A Plan
- ✓ Proven Triple Bottom  
Line Results



# Who is using TNS for Sustainability Planning?



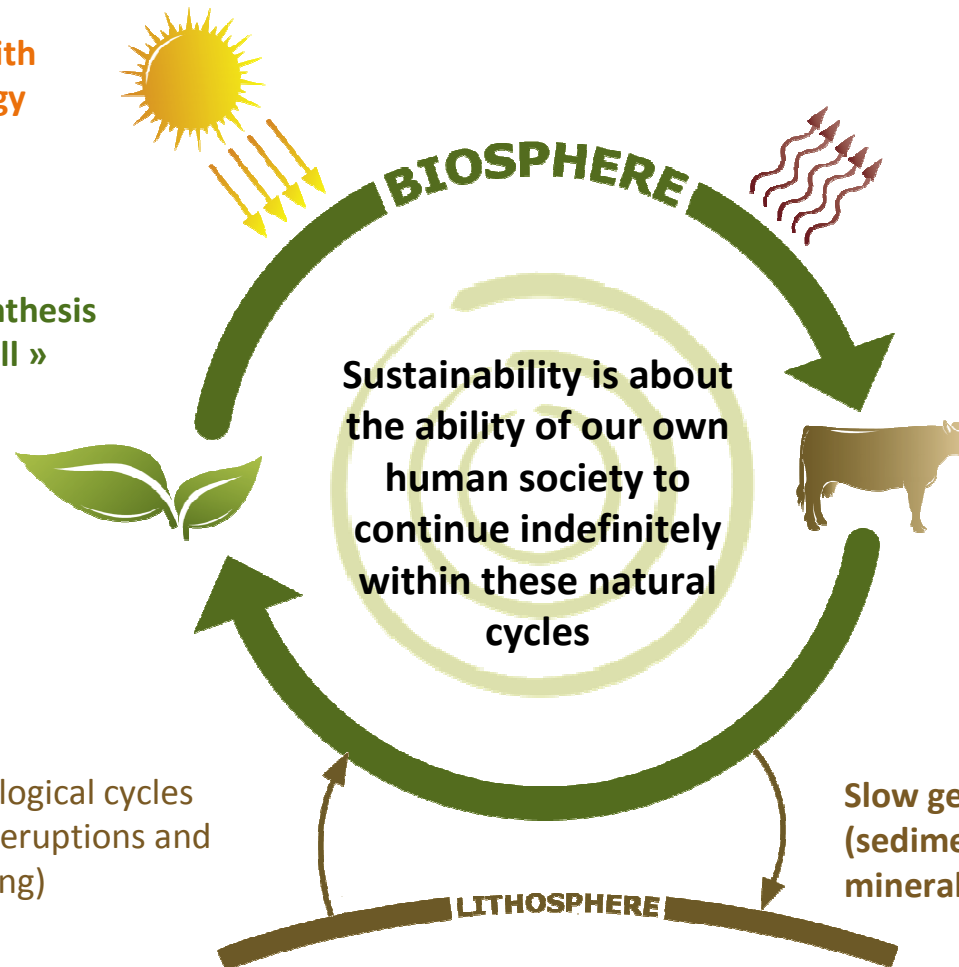
# Metaphor of the funnel



# Cycles of nature

Open system with  
respect to energy

« Photosynthesis  
pays the bill »

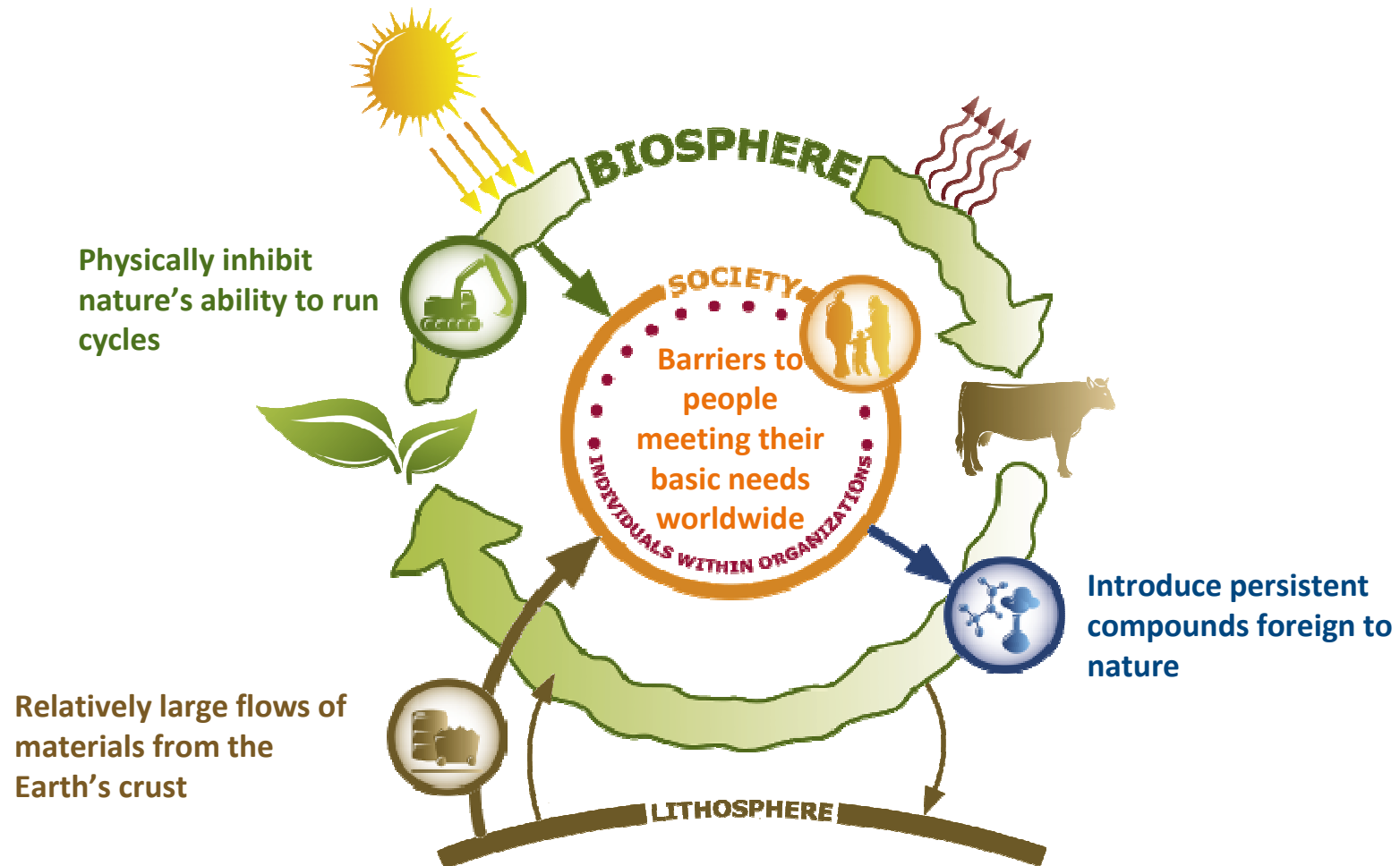


Closed system with  
respect to matter

- 1) Nothing disappears
- 2) Everything disperses



# How Humans Influence Cycles







# The Best Example

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# 4 System Conditions

**In a Sustainable society, nature is not subject to systematically increasing...**

- 1**  ...concentrations of substances extracted from the Earth's crust,
- 2**  ...concentrations of substances produced by society,
- 3**  ...degradation by physical means,  
  
and, in that society...
- 4**  ...people are not subject to conditions that systematically undermine their capacity to meet their needs.





# Impacts from Our Industry

	The Systems Condition	The Violation	The Source	The Impact
1	 <b>Extraction from the Earth's crust</b>	<ul style="list-style-type: none"> <li>- Sales Driving Miles</li> <li>- International Ocean Freight and US Ground Freight for Materials</li> <li>- Heavy use of landfill waste</li> <li>- Coal based electricity</li> <li>- Propane in Forklifts</li> </ul>	Oil Coal Mining	Reducing supply & increasing pollution
2	 <b>Inescapable man-made substances</b>	<ul style="list-style-type: none"> <li>- PVC Films / Panels, composite panels</li> <li>- Solvents in cleaning supplies</li> <li>- Isocyanates in glue</li> </ul>	Toxic chemicals	Can be harmful to your health
3	 <b>Degradation</b>	<ul style="list-style-type: none"> <li>- Use of Wood that is not sustainably forested, card board packaging from Vendors, office paper</li> </ul>	Loss of Forest	Fewer ecosystems CO2 Erosion
4	 <b>Interfering with societal needs</b>	<ul style="list-style-type: none"> <li>- Lack of Controls for work life balance</li> <li>- Room for Safety Improvements</li> <li>- Dust in air for workers</li> <li>- Long work shifts</li> </ul>	Customer & Performance demand	More stress, less performance, less happy lives



# Key Sustainability Challenges we have identified and will focus on first

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- 3  • Non-Sustainably forested plywood
- 1  • Plant Electricity Usage - Coal Based
- 1  • Use of landfills - need more analysis
- 2  • PVC Films

# Our Strategic Goals

Strategic Goals	Possible Measures
Get to zero landfill	Tons / Mth of landfill waste
Have all products be made from sustainable materials	Identification of non-sustainable materials. \$/Mth of purchases of those materials
Obtain all energy from renewable or independent resources	Energy Audit. Mthly Electric & Gas purchases
Have each employee progressing in career and life	Happiness surveys & career tracking
To continually reduce fuel cost for all activities associated with Genesis	Setup monthly fuel tracking matrix
To have every employee involved in community education / development	Employee hrs, Employee %, Company \$

## Halogenated compounds

Chlorodifluoromethane  
chlorotrifluoromethane  
dichlorodifluoromethane  
chloromethane  
chloroethane  
trichlorofluoromethane  
dichloroethylene  
Freon 113  
methylene chloride  
chloroform  
trichloroethane  
carbon tetrachloride  
trichloroethylene  
chloropentane  
dibromochloromethane  
tetrachloroethylene  
dichloropropene  
chlorobenzene  
chlorohexane  
iodopentane  
3-methyl-1-iodobutane  
chloroethylbenzene  
dibromodichloromethane  
dichlorobenzene  
chlorodecane  
trichlorobenzene

## Alkanes Alkenes Alkynes

C3H8	C3H6	C5H8
C4H10	C4H8	C6H10
C5H12	C5H10	C7H12
C6H14	C6H12	C8H14
C7H16	C7H14	C9H16
C8H18	C8H16	C10H18
C9H20	C9H18	C12H22
C10H22	C10H20	
C11H24	C11H22	
C12H26	C12H24	
C13H28	C13H26	
C14H30	isoprene	
C15H32		

## Aldehydes

acetaldehyde  
methyl propanal  
n-butanal  
methyl butanal  
crotonaldehyde  
n-pentanal  
n-hexanal  
furaldehyde  
n-heptanal  
benzaldehyde  
n-octanal  
phenyl acetaldehyde  
n-nonanal  
methyl furaldehyde  
n-decanal  
n-undecanal  
n-dodecanal

## Cyclic

cyclopentane  
methyl cyclopentane  
cyclohexane  
ethyl methyl cyclohexane  
C10H14 isomers  
C10H16 isomers (other)  
limonene  
methyl  
decalin  
α-pinene  
camphene  
camphor

## Aromatic

benzene  
toluene  
ethylbenzene  
xylene  
phenyl acetylene  
styrene  
benzaldehyde  
C3-alkylbenzene isomers  
C4-alkylbenzene isomers  
methyl styrene  
dimethyl styrene  
C5-alkylbenzene isomers  
naphthalene  
C6-alkylbenzene isomers

## Ketones

acetone  
methyl ethyl ketone  
methyl propyl ketone  
methyl vinyl ketone  
ethyl vinyl ketone  
2-pentanone  
methyl pentanone  
methyl hydrofuranone  
2-methyl-3-hexanone  
4-heptanone  
3-heptanone  
2-heptanone  
methyl heptanone  
furyl methyl ketone  
octanone  
acetophenone  
2-nonanone  
2-decanone  
alkylated lactone  
phthalide

## Furans

furan  
tetrahydrofuran  
methyl furan  
methyl tetrahydrofuran  
ethylfuran  
dimethylfuran  
2-vinylfuran  
furaldehyde  
2-n-butylfuran  
2-pentylfuran  
methylfuraldehyde  
furyl methyl ketone  
α-furfuryl alcohol  
benzofuran

## Other Oxygenated Isomers

C4H6O  
C4H8O  
C5H10O  
C6H8O  
C6H10O  
C4H6O2  
C6H12O  
C7H12O  
C7H10O  
C7H14O  
C6H6O2  
C8H14O2  
C8H16O  
C7H8O2  
C7H10O2  
C9H18O  
C8H6O2  
C10H12O2  
C10H14O  
C10H16O  
C10H18O  
C10H20O  
C10H22O  
C9H8O2  
C11H20O  
C10H10O2

## Alcohols

methanol  
isopropanol  
2-methyl-2-propanol  
n-propanol  
1-butanol  
1-pentanol  
α-furfuryl alcohol  
2-ethyl-1-hexanol phenol  
2,2,4-trimethylpenta-1,3-diol  
α-terpineol

## Acids

acetic acid  
decanoic acid

## Sulfur compounds

sulfur dioxide  
carbon disulfide  
dimethyl disulfide  
carbonyl sulfide

## Nitrogen compounds

nitromethane  
C5H6N2  
C5H8N2  
C4H4N2O  
methyl acetamide  
benzonitrile  
methyl cinnoline

## Epoxides

1,8-cineole

## Esters

vinyl propionate  
ethyl acetate  
ethyl-n-caproate  
isoamyl formate  
methyl decanoate  
ethyl decanoate

## Esters

dimethyl ether  
dihydropyran

# What's in a Vision?

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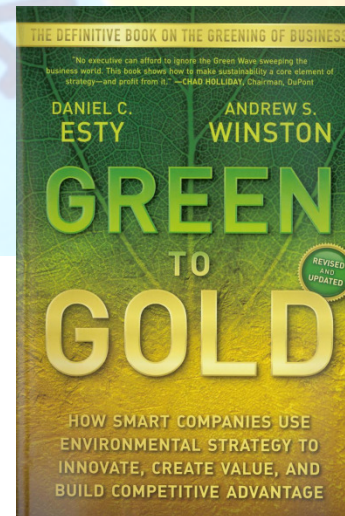
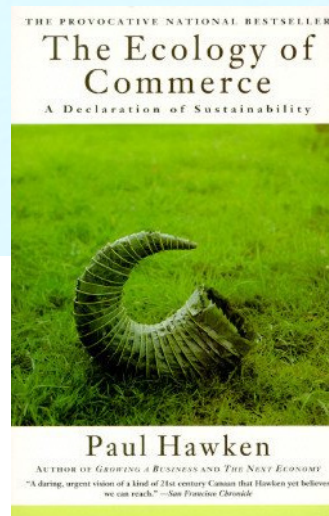
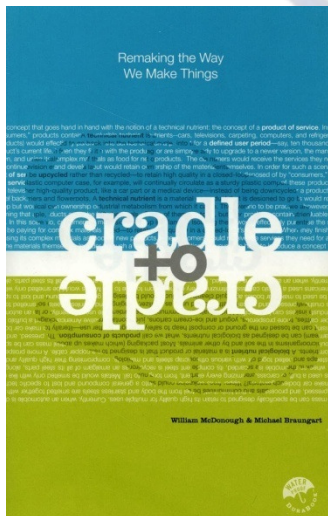
- **Where** do we want to go?
- **What** do we want to achieve?
- **When** do we need to get there?





# How to get started...

- Join us on the journey to a more Sustainable future
- You can start where you are. All that is required is:
  - A common framework for approaching the problem
  - A common language
  - Shared understanding
  - Tools to help us find solutions and measure your progress



# So...What are we asking?

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- Join (or create) a group like **The Sustainability Coalition**
- Go through Sustainability training i.e. **The Natural Step**
- Establish your organization's vision for Sustainability
- Identify and develop projects to implement





# What will they say about us in 25 years...?

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RV Buddies 2009/2010

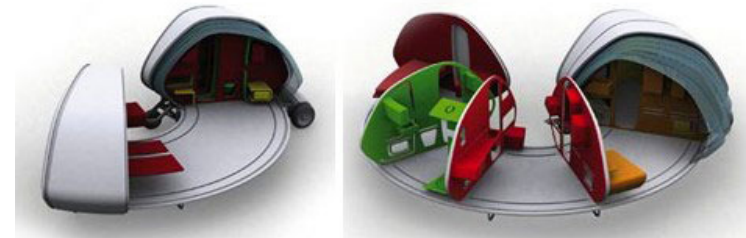




# More Brownfields?



# Purpose, Passion, Vision & Strategy will Determine the Future



# **SUSTAINABILITY**

## **COALITION**



**EDUCATION. COLLABORATION. INNOVATION.**  
EDUCATION' COLLABORATION' INNOVATION'

[www.thesustainabilitycoalition.com](http://www.thesustainabilitycoalition.com)





thank you  
Q & A time

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